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**Recontextualising service work and HRM in the digital economy:
An integrated framework for theory and practice**

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Abstract

Continuing advances in digital technology are producing widespread changes in work and its management, particularly where service work is performed away from an employer's premises, referred to as remote working. Whilst such changes can offer remote workers greater temporal and locational flexibilities, there is growing concern that their work is being insidiously commodified in line with Labour Process Theory to enhance the position of firms in Global Value Chains (GVCs). Integrating insights from these frameworks and relevant fields of scholarship, we examine how the nature and location of remote work and its HRM are being recontextualised. Our systematic analysis of peer-reviewed published empirical findings demonstrates the need to broaden the existing firm-centric focus of the GVC literature to encompass workers and their HRM, particularly as there are increasing numbers of workers operating outside firms using digital technology. It also reveals that the digitisation of the labour process is generating a spectrum of nuanced and unfolding implications for remote workers and their HRM, and a complexity of spatial reconfigurations, which provoke debate and agendas for future research and HRM practice.

Keywords: digital technology; remote working; flexibility; global value chains; labour process theory; geography

Recontextualising service work and HRM in the digital economy: An integrated framework for theory and practice

Introduction

There are now more than three billion Internet users globally and increasing numbers are using digital technologies to work “remotely”, defined as “being detached from traditional fixed places of work”, such as the premises of their employer(s) (Eurofound and ILO, 2017; Felstead and Henseke, 2017: 195). This is enabling some to choose when and where they work and to engage with multiple sources and forms of employment (Barley and Kunda, 2004; Ferriss, 2011), offering glimpses into how work and HRM may evolve in the future (Bondarouk and Brewster, 2016; Colbert et al, 2016; Flecker, 2016; Neufeind et al 2018).

Whilst these developments can offer workers greater flexibilities, there is growing concern that their work is being insidiously commodified in keeping with labour process theory to advance the position of firms in value chains that can be global (Gandini, 2019; Newsome et al. 2015; Thompson and Smith, 2010). Some expect this to lead to the decontextualisation of work, so that factors such as human geography and their knowledge and skills play less of a role in shaping firm production, thereby extending the availability of human resources and working patterns (Fried and Hannson, 2013; Irani, 2013). Rather than being decontextualised, we argue that remote working is being *re*contextualised with changes to conventional geographical and technological contexts for work and human relations¹. To enable a greater insight into

¹ Here we understand context as being place-specific. The paper focuses on the geographical shift of work to relationally distant locations. The specific working conditions in individual locations is also determined by sectoral, cultural, organisational and institutional factors which are beyond the scope of this paper.

changes to remote work and HRM than focusing on cases from a single study or stream of literature, we draw on the analysis of published peer-reviewed empirical evidence from key fields (HRM, employment and industrial relations, political economy, technology and human geography) identified through searches of comprehensive research databases.

Furthermore, we examine how the continuing recontextualisation of the work performed by digital remote workers generates implications for this growing group of workers and their experiences of HRM. We do this by posing the following research question for this review. How are remote working and its HRM being recontextualised in the increasingly spatially fragmented digital economy?

In addressing this question, we demonstrate that the claim that digitisation will lead to the complete de-contextualisation of work and HRM is inherently flawed. Instead, we posit that work and HRM digitisation is generating a nuanced spectrum of implications for remote workers and organisations that need to be navigated by individuals and those engaging with HRM theory and practice. Our review highlights the need to extend existing Global Value Chain (GVC) literature by moving beyond a focus on the position of a firm to include the management of human resources and the labour process, particularly as remote working involves operating outside firms. Building on these findings, we formulate a new and original conceptual framework which can be used by the range of parties focusing on developments in work and HRM in the digital economy.

Work and HRM in the digital economy

New technology is changing the characteristics of work and employment across many fields of work (Felstead and Henseke, 2017; Flecker, 2016). This is because digital technology enables the multidimensional fragmentation of work: administratively through increasingly complex employment relationships (direct and subcontracted); temporally through the growing use of part-time and shift work; contractually through the individualisation of the employment relationship; and spatially through smaller and more isolated work units.

Key outcomes of these developments can include greater flexibility and mobility, which can benefit both workers and organisations (Ludivine, 2017), but at the same time present challenges (Cooper and Lu, 2019). In part, this is because the employment relationship is a continually contested terrain (Blyton et al, 2010; Budd and Bhawe, 2019), requiring the balancing of each party's needs for varying types and degrees of flexibility. Employers may seek labour and operational flexibilities, including numerical (variation over how many human resources are contracted and how much work they do), temporal (variation over the timing and pace of work) and locational (variation over where the work is performed) flexibilities (Kalleberg, 2001).

Digitisation plays an important role in contributing to these types of flexibility and can enable smarter working and aid work-life management. However, in some cases, extensive employer demand for these forms of flexibility can expose individuals to greater precarity (Koslowski, 2016; Strauss, 2018), defined as “the objective

conditions, as well as subjective and heterogeneous experiences and perceptions of insecure employment” (Alberti et al. 2018: 447).

Labour process theory, which adopts a critical perspective on these developments, contends that capital owners and managers seek to control the organisation of work to enhance the value they are able to extract from human resources. Indeed, Braverman (1974) argues that managers purposely fragmenting work, degrading it, so that employers require less skilled and lower paid workers. HRM interventions can play an instrumental role in this process (Thompson and Smith, 2010). Those practising HRM therefore have to balance a plurality of interests (Budd and Bhawe, 2019; Heery, 2016; Katz et al. 2015), with implications for how they navigate this process and relevant structures at an individual level (Pinnington, et al. 2007).

Digitisation could be regarded as a new and continuously evolving employer tool in this control process (Newsome et al. 2015). Software can be used to capture and digitise worker knowledge (Mabey and Zhao, 2017; Taskin and Van Bunnem, 2015), so that it can be used to standardise and speed up tasks (Shestakofsky, 2017). This may serve to limit worker discretion and render human inputs more menial through automation, as part of a low road approach to the “McDonaldization” of digital work, accompanied by a growing focus on more transactional than relational HRM (Prujt, 1997; Ritzer, 2011).

However, the extent to which these processes are experienced is likely to be subject to the nature of the work being undertaken and the balance between human and technological inputs (Flecker, 2016). Thus, we seek to examine the implications of

these developments for remote workers and their HRM identified in contemporary empirical research findings.

Method

To address the research question posed in the introduction and enrich our pre-existing knowledge, we conducted a systematic literature review in line with established conventions (see Denyer and Tranfield, 2009; Rousseau 2012; Torraco, 2005). A systematic review was better suited to the research question posed in this paper than a statistical meta-analysis, because of the range of different methods and data used across the scholarly fields and papers examined.

We used the research question to inform the identification of relevant keywords/search strings. Using the keywords “digital” and “remote” and the Boolean operator “*”, we searched comprehensive e-databases including EBSCO, Emerald Insight, Scopus, and ProQuest. A large number of search results were returned. In the case of ProQuest, >50,000 results before the application of any filters. To ensure the currency of the results, we limited the results to journal articles published since 2010. We then narrowed the results by language and subject. For example, excluding subjects such as ‘vegetation’ and ‘hydrology’. The further examination of the results through the application of additional filters revealed that many of the articles listed were of no or limited relevance to the focus of the research question. >49,000 of the ProQuest results were from Health, Nursing and Medicine databases. Filtering the remaining results by publication title revealed deficiencies in the search results, because journals and papers known by the authors to be engaging with developments in remote working and HRM

were not featured in the search results, particularly from the field of human geography. Consequently, the scouring of such broad databases needed to be supplemented with more focused searches of relevant and reputable journal databases.

Thus we undertook a systematic review of empirical findings published in leading journals focusing on technology, HRM and employment studies, political economy and human geography to generate a focused and coherent body of high-quality peer-reviewed papers and evidence. The journals included in the search were highly ranked in the Academic Journal Guide produced by the Chartered Association of Business Schools.

We entered the search string “digital” AND “remote” into the search fields of each journal’s electronic database. The combination of these terms generated a small number of results, so it was clear that more inclusive searches were needed. The term “remote working” encompasses homeworking and teleworking (Felstead and Henseke, 2017). Although the continuing relevance of the term “telework” has been questioned (Wilks and Bilsberry, 2007), we sought to ensure that we did not omit papers using the terms “home” or “telework” in place of digital or remote work. The combination of these terms “digital” AND “remote” AND “telework” AND “home” generated only one result in the case of *Human Resource Management Review*. Consequently, we conducted separate keyword searches followed by the Boolean operator “*”. Overall, an initial total of 12,773 articles were identified using these broad search parameters. See table 1 below.

Insert Table 1 about here

Papers identified using the term “digital*” in a journal were examined before progressively reviewing the “remote*”, “telework*” and home*” search results. This enabled duplicate matches to be picked up, so as to avoid the repeated appearance of a paper. Examining articles published after 2010 did not mean that we missed out on literature published before this year, because the papers examined drew on and cited preceding books and papers, which have been included in this paper because of the context or seminal contributions they provide.

With respect to the search results, the authors carefully reviewed the titles and abstracts of each search result to filter out papers that were not relevant to the focus of this paper. For instance, papers on remote mining were picked up using the “remote” search term in *Human Relations*. This led to the identification of 465 papers featuring relevant content. When reviewing these papers we identified key themes in the papers and their findings. This initial coding was then crosschecked and deliberated on an interdisciplinary basis. The themes were then progressively refined through an iterative process of analysis and discussion to enhance the validity and reliability of the themes and the range of findings discerned. The final set of themes included: firm and worker (global) value chain positions; employer/client control *vs* worker autonomy; contract precarity; worker knowledge and skills; and technology and automation. Based on these themes, we pose five generic propositions which serve as provocations for debate and further research.

The recontextualisation of remote working and its HRM

Digitisation offers scope for work to be released from a tethered location (Irani, 2013). Most digital work does not have to be performed from a fixed setting, because it can be undertaken electronically from a wide variety of sites (Fried and Hannson, 2013). Projects can thus be broken down into discrete tasks that can be allocated to geographically dispersed workers (Flecker and Schönauer, 2016). This does not, however, render geography obsolete. While Internet connections enable anyone to enter a non-physical geographical location, people still have to ‘meet’ somewhere, even in virtual spaces (Graham, 2013). Work and HRM continue to be located practices, albeit practices that are becoming spatially and temporarily reconstituted as a consequence of various processes of globalisation (Jones, 2008).

A geographical perspective offers interesting insights to HRM in relation to understanding this untethering of work from particular locations and its retethering in new locations. Relevant work in geography identified through our literature searches can be divided into three fields: (1) digital communications, the Internet and ‘cyberspace’ (Graham, 2013; Kitchin, 2013); (2) changing geographies of lived experiences of labour and work (Jones, 2008; Kinsley, 2014; Leszczynski, 2014; Richardson, 2018) and (3) the position of firms and workers in value chains (Coe and Jordhus-Lier, 2011; Coe and Hess, 2013; Rainnie et al. 2011).

The Internet can be conceived as “a network that enables *selective* connections between people and information” (Graham, 2013: 180, emphasis added). When applied to an organisational level, the implications for HRM relate to on-going differentials between how employers and their workers are connected to each other and the increasing

integration of ‘digital’ and ‘non-digital’ work. Workers are able to simultaneously inhabit digital and non-digital spaces, but the capacity for workers to access digital spaces is subject to social inequalities, including divisions between classes, urban locations and nations (Neuфеind et al. 2018). This is underpinned by the conception not of specific places, but of abstracted ‘spaces’ in which distance is relational and activities and processes take place within and across spaces. This challenges us to break down the dichotomy of ‘local’ and ‘global’. ‘Global work’ is not a binary opposite to ‘local work’ as it is constituted in relational space with a disjuncture, non-linear chronology (Massey, 2005). This enables us to understand how, why and when work is being transformed (or not) by distanced relations and the impact that this has on workers (Jones, 2008).

Digital platforms are simultaneously deterritorialising (or ‘unfixing’) labour practices and re-entrenching spatially uneven patterns of the precarious positioning of workers in value chains that reflect global core-peripheries (Graham et al. 2014). In their review of existing literature on digital geographies, Ash et al. (2018) reveal that the focus of much geographical enquiry has been on inequalities in access to digital technologies, with a smaller number of analyses of the reconfiguration of labour in the gig economy (Graham et al. 2017a; Graham et al. 2017b), the rise of digital labour (Öhman, 2010) and the uneven global geographies of micro-work (Lehdonvirta, 2016).

The impact of technology on the geographies of work is profound. Richardson (2018: 244) argues “technologies enact an extension of the activities that count as work, together with an intensification of working practices, rendering the boundaries of the workplace emergent”. For her, such changes are ambivalent, providing opportunities

for ‘affirmation’ and ‘negation’. Affirmative work offers a basis for utopian demands and might be experienced as creative fulfilment, concurrent with high skill, creative problem solving work (Barley and Kunda, 2004). While negatively, “work reduction underpins claims for work/life balance, particularly when excessive work is experienced as exploitation” (Richardson, 2018: 245), often linked to low skill tasks (Shestakofsky, 2017) and dehumanised transactional work (Ritzer, 2011).

Local remote workers may be expected to experience more humanised work and HRM due to their physical proximity and visibility to an employer or client than those undertaking more distal remote work (Koslowski, 2016). Yet skill type and level potentially play a more influential role aided by the scope to deliver services internationally through digital technology (Felstead et al. 2015; Flecker, 2016; Shestakofsky, 2017).

The role of firms, particularly multinational firms, in the recontextualisation of work is far reaching. One key motivation for multinational firms to internationalise has been to exploit uneven labour costs, due to the traditional ‘fixity’ (or ‘tethering’) of labour to geographical space (Hudson, 2001). However, the Internet is causing the ‘spatial unfixing of work’ (Flecker and Schönauer, 2016; Graham et al. 2017b). Work is globalising, “becoming less constituted through localised, physically-proximate relations and increasingly constituted through distanced relations” (Jones, 2008: 14). This ‘unfixing’ or ‘recontextualisation’ is not globally or nationally uniform, and while it is now a global phenomenon, it is still characterised by distinct geographies (Graham et al. 2017b). Evidence suggests that some multinationals founded on digital technology are seeking to standardise the (e)HRM of remote workers on an international basis

(Boudreau, 2017). However, they continue to encounter obstacles, because, as empirical findings repeatedly underscore, national and regional context play an ongoing role in influencing HRM policies and practices across a range of organisational and occupational settings (Peters et al. 2016). As such, we can observe the interaction between the temporal dynamics of digital work, and the fluidity of movement between different contexts. Please see figure 1 below.

Insert figure 1 about here

As Figure 1 shows, technological changes are reshaping and often relationally distancing connections between workers and their employers, in more fragmented and temporal ways. It is therefore important to highlight the dynamism of recontextualised digital work, because it is rarely static. While geographical scales such as ‘local’, ‘national’ and ‘international’ help us to frame and situate worker-employer relations; the relational conceptualisation of space reminds us to avoid oversimplification and to note the high degree of interconnection and interdependency between these geographical scales (c.f. Massey, 2005).

In addition to advancing a relational spatial perspective, this paper suggests that global value chain (GVC) and global production network (GPN) approaches can offer important macro and meso scale perspectives on the recontextualisation of work. The contemporary global economy increasingly features complex global value chains connecting people and places through the exchange of goods and services with a

plurality of interests (Budd and Bhawe, 2019; Heery, 2016; Katz et al. 2015). Consequently, we incorporate literature on GPNs into our analysis of GVCs in this paper.

Since Gereffi's (1994) foundational work on global commodity chains, much work across the social sciences has used such a lens to examine systems of production and governance. The subsequent development of the GVC (Gereffi, Humphrey and Sturgeon, 2005) and GPN approaches (Henderson et al. 2002; Coe et al. 2008) has focused on power and the inter-sectional linkages between firms, the embeddedness of firm activities and economic development. Criticism has been levelled at both approaches for neglecting labour and the impact of inter-firm relationships on employment practices (Bair, 2005; Coe et al. 2008; Rainnie et al. 2011). The appeal of the GVC approach to the labour process field is that it provides an explanatory framework for the relations between firms and workers in a global division of labour, but the focus of GVC literature on governance has largely neglected the contested nature of the labour process as well as labour markets (Hammer and Riisgaard, 2015).

There have been calls to move beyond both firm- and network- centric views of production networks that provide a partial analysis of the social relations of production (Taylor, 2010). For Taylor (2010), GVC/GPN frameworks can explicate the mode of coordination in production chains and, when combined with labour process theory, can reveal the mutually conditioning relationships interconnecting the macro, meso and micro levels. Labour process theory offers insights into how work is experienced and how value is created through firm control processes within GVCs (Newsome et al. 2015). Robinson and Rainbird (2013) argue that there are a number of factors that

impinge on the way in which labour contests forms of managerial control at the point of production citing Ferner et al's (2011:164) claim that 'power and the interests of actors shape transfer through processes that draw on institutional resources both at the "macro" level of the host business system and at the "micro" level of the multinational company'. In addition to foundational work by Taylor (2010), Taylor et al. (2013) and Newsome et al. (2015), other contributions include work on labour agency (Coe and Jordhus-Lier, 2011), worker precarity (Phillips, 2011; Barrientos, 2013) and the role of social institutions and skill formation (Ramirez and Rainbird, 2010).

This paper therefore responds to Taylor's (2010) call by integrating labour process and GVC approaches. The restructuring, lengthening (and more recently the shortening) of global value chains is weakening labour and fragmenting working relationships, both in contractual and spatial terms. Existing academic work on labour exploitation and attempts to tackle modern slavery show that worker conditions are often determined by the position of the employer in global value chains i.e. how distant the employing company is from the lead firm in the supply chain (Crane et al. 2019; Le Baron, 2018). However, while physical distance may be influential, the relative relational positions of firms and workers in GVCs may play a greater role in shaping workers experiences of work and HRM (Ferner et al. 2011).

In this paper, we extend Hammer and Riisgaard's (2015) argument that it is necessary to take better account of the position of workers and their agency in resisting and complying with labour processes and value chain dynamics by including the role played by the function and practice of HRM. This is a critical lacuna to address, because HRM is at the interface between firms and individuals in GVCs and so provides a focal point

for the recontextualisation and (de)humanisation of remote work to be examined and gauged taking into account physical and relational distance. Consequently, we advance proposition 1.

P1. *The relational position of an individual and the organisation they work for in (global) value chains has a greater influence on the balance between the humanisation and dehumanisation of service work and HRM than the physical geographical location from which the work is commissioned or produced.*

We now focus on the attendant implications for remote working and its HRM in the following section. Our review sheds light on how this interrelationship contributes to the balance between the affirmation and negation of humanised work and HRM.

Implications for remote work and its HRM

Individuals may work remotely as employees of an organisation or when they contract out their services to clients as contract workers or firms (Aguinis and Lawal, 2013; Fried and Hannson, 2013). Those championing remote working arrangements contend that remote working liberates workers and enables them to gain greater flexibility and a better work-life balance than working fixed hours at an employer's place of work (Ferriss, 2011; Pink, 2001).

From the perspective of line and HR managers or clients seeking to manage remote workers, there may be a desire to monitor the activity of remote workers depending on

the standpoint of these individual parties on the extraction of value. The degree of such monitoring is likely to be influenced by the balance between organisational and personal engagement with hard (where human resources are typically treated as disposable commodities) and soft (where they are primarily treated as assets) approaches to HRM (Boxall and Purcell, 2016), and the extent to which remote working is undertaken. In some cases, distrust and a desire to exert control over work practices can stimulate the extensive digital tracking of remote work, as part of a growing focus on performance metrics and HR analytics (Abraham et al. 2019; Manuti and de Palma, 2017).

Such developments are consistent with labour process theory. However, the personal views of those managing remote workers on the moral and ethical treatment of workers and the discretion available to them in managing the conduct and performance assessment of remote workers is likely to moderate to some degree the pace and character of the labour control process and in turn the dehumanisation of work and its management (Pinnington et al. 2007). Hence, this leads to proposition 2.

P2. *When managing remote workers, individuals who seek to moderate the organisational dehumanisation of HRM and work contribute to the affirmation of humanised work and HRM. Those who do not seek to do this contribute to the negation of remote work and HRM.*

In the case of those managing employees working remotely, the behaviours and practices they adopt are also likely to influence the presenteeism pressures experienced by remote workers and the potential for them to lose out on opportunities that arise in

an office-based environment and during attendant social activities (Anonymised, 2015). In turn, this can lead staff working remotely to work longer harder hours to show that they are as available and productive, if not more, than colleagues working on site (Cooper and Lu, 2019; Lohaus and Habermann, 2019). Thereby, ‘chaining’ individuals to work and impinging on their ability to achieve an improved work-life balance (Delanoeije et al. 2019; Mustafa and Gold, 2013). Thus, drawing on labour process theory we posit proposition 3 as a generic trend statement, which would need to be examined through a longitudinal study and/or the reflective accounts of remote workers to gain insight into how this is shaped by the recontextualisation of their work and HRM.

P3. *The longer and more frequently an individual works remotely, the more likely they are to have precarious contracts and experience dehumanised work and HRM².*

A fundamental implication of remote working identified in the literature review is that it can impede the exchange of knowledge. Explicit knowledge can be accessed relatively easily with the aid of digital software (Olivo et al. 2016). However, tacit knowledge is often more valuable as it is less readily available and is embedded in particular geographical spaces (Gertler, 2003). Articulate tacit knowledge can be shared through online interactions, but may be more likely to take place during in-person social exchanges (Anonymised, 2018; Kaše et al. 2009). Humanised remote

² It is important to note here that remote working is not necessarily a condition for experiencing dehumanised work and management

working and HRM may therefore affect the degree to which individuals engage in knowledge sharing (Taskin and Bridoux, 2010).

Debates in the field of HRM suggest that microfoundational and communal perspectives on knowledge ownership influence individuals' willingness to share their knowledge (Barney and Felin, 2013; Author 1, 2018). Those adopting a microfoundational perspective typically consider knowledge to be an individual property and so are less willing to view knowledge as a communal resource. Thus, management efforts to extract and digitise employee knowledge can lead to knowledge hoarding (Hislop, 2013); findings from the Hadron Collider experiment at CERN in Switzerland reveal that the more an organisation seeks to formalise and digitise knowledge, the less willing individuals are to share their know how (Mabey and Zhao, 2017). As a consequence, we advance the following proposition.

P4. *Dehumanised remote working and HRM negatively affects the sharing of tacit knowledge across different geographical scales and leads to stronger identification with a microfoundational perspective on knowledge and associated behaviours*

On this basis, the dehumanisation of remote working and HRM is likely to negatively affect knowledge sharing within an organisation. A strongly microfoundational perspective may lead remote workers to make less use of HRM and organisational support than in the past or where more communal views are held to negotiate the 'mutually conditioning relationships' that interconnect macro, meso and micro scales (Taylor, 2010). In turn, this may influence an individual's labour market agency.

Those operating independently of organisational employment are frequently portrayed as having greater choice over how they interact with the market for their services by numerous authors (e.g. Hall, 2003; Felfe et al. 2008). Exponents of this view refer to these workers as ‘free agents’, who pursue remote work arrangements in order to escape the constraints of conventional organisational working relationships, environments and employment (Ferriss, 2011; Pink, 2001). Not only do such arrangements reportedly offer greater financial rewards to individuals, but they also enhance their career opportunities (Storrie, 2003).

Yet the evidence for these outcomes is subject to continued debate due to the pressures and challenges individuals can encounter outside organisational membership, including isolation and uncertainty (see Cappelli, 2008; Osterman, 1988). Like organisational employees consistently working on a remote basis, they may feel detached from in-person social relationships (Gilson et al. 2015).

From an employment relations perspective, the externalisation of employee work is typically viewed as a negative development (Cappelli, 2008). In place of stability, some work relationships are becoming more fluid and short-lived (Hollister, 2011). Thus exposing workers to greater precarity (Standing, 2014), particularly where zero hours contracts are in place, which do not stipulate a minimum number of working hours or explicitly oblige workers to work the hours requested or required by an employer (Felstead et al. 2015). In which case, remote workers may be viewed as a faceless crowd of disposable commodities rather than prized human assets.

Remote working can enable individuals to extend their careers into later life (Tomlinson et al. 2017). However, in contrast to the free agent perspective, this may be out of necessity rather than choice (Bidwell and Briscoe, 2009). This is likely to be the case where individuals experience deterioration in the terms and conditions of their work. The maintenance, amelioration or deterioration of such conditions is likely to be influenced by a remote worker's skill levels and the currency of their human capital over time, but also the precarity of their contract, relational distance and developments in technology (Flecker, 2016). Hence, propositions 5.

P5. Remote workers who continue to build valuable human capital over the course of their careers are less likely to experience work and HRM dehumanisation depending on developments in technology and their relational geographies.

Digital technologies both enable and constrain remote workers, facilitating virtual communication over physical space while disproportionately exposing individuals to dehumanising work and hard HRM/eHRM (Pruijt, 1997; Ritzer, 2011). Those that can avert the disadvantages and vulnerabilities of remote working over time through network-building (physical and/or virtual) are more likely to be more relationally proximate to their employers. As a consequence, they are more likely to experience humanised work and soft HRM/eHRM (Parry and Tuson, 2011).

Proposition 5 could be examined through the acquisition of individuals' reflexive accounts of their experiences of remote working over the course of their careers or through longitudinal research to track these variables and their experiences over time.

Most existing studies have adopted a cross-sectional perspective and have not adequately investigated variations along these comparative lines. Much is likely to depend on the interrelationship between remote workers and how managers and/or clients seek to manage them. Therefore, a more nuanced insight is needed to examine variations in the spectrum and pace of changes to work and HRM in an occupation in a more internationally fragmented digital economy.

Discussion

Drawing on the analysis of the literature reviewed we discuss the implications of our findings for HRM theory and practice in the digital economy. This leads to the development of a new integrated framework encapsulating developments in remote work and its HRM. We then identify fertile avenues for future empirical research.

Implications for theory and practice

We demonstrate that remote working and its HRM are being reordered in the digital economy. The paper argues that the adoption of a GVC approach can offer insight into these developments by broadening its firm-centric focus to include labour process dynamics, which affect the behaviours and experiences of workers and their HRM, particularly given that a growing number of workers are working remotely outside firms. Multiple firms and individual parties may shape their experiences of work and HRM.

Our findings demonstrate that traditional binary understandings of on-site and remote work obscure the complexity of the processes of recontextualisation being observed in the contemporary global economy. We argue for a more spatially sensitive approach, which considers both the geographies of HRM decisions at the firm and individual level, and the outcomes of broader trends in HRM such as the increased use of workers based in overseas locations. As Figure 1 shows, communication technologies can ‘collapse’ the virtual distance between firms and workers, regardless of their physical distance.

The reordering and recontextualisation of work generates opportunities and challenges for a plurality of stakeholders (Stone and Deadrick, 2015). This can result in geographically complex outcomes that can be best understood using relational conceptualisations of space. We encapsulate the spectrum of implications generated in Figure 2 to inform future lines of inquiry into changes taking place for remote workers and their experiences of HRM.

Insert figure 2 about here

The shifting balance between the affirmation and negation of work and HRM is likely to be contextually influenced by the roles played by government policy and regulations, trade unions, worker organisations and HRM practitioners, where present (Budd and Bhawe, 2019; Heery, 2016; Katz et al. 2015). Concerted action between these parties to maintain or advance a higher road position is more likely to be effective at a national,

sectoral, occupational or organisational level than isolated efforts. This would serve to reinforce the individual efforts of remote workers, clients and employers seeking to affirm the humanisation of remote work and its HRM.

The scope for HR managers in particular to play a substantial role in moderating the low road negative characteristics of this recontextualisation for organisations and workers is likely to be constrained and may be diminishing due to the growing use of technology and the oversight of HRM and work being outsourced or undertaken by other functionaries. Much is likely to depend on whether HRM practitioners are in place, their influence on the management of remote workers (Van Gramberg et al. 2014) and the capacity of HRM practitioners to influence conditions in relationally distant workplaces.

The leaders of these organisations may see less of a need or no need for HRM and so there is a danger that HRM may become redundant in the digital economy, except that organisational outcomes demonstrate that it continues to be needed, particularly as organisations driving digital technology grow (Boudreau, 2017). It could also be argued that the recontextualisation of work increases the relevance and significance of HRM as employee-worker relationships continue to expand across space into transnational locations. HRM expertise will be essential in negotiating the variety of different regulatory and institutional settings in which digital work is occurring.

An increasing number of digital organisations are using e-HRM and shared services (Parry and Tyson, 2011). This may further contribute to the degradation of work relations and so it is important for HRM to play a leading role in balancing individual

and organisational needs, if the more negative implications of remote working are to be avoided. Therefore, HRM professionals interfacing with digital organisations need to be proactive in this changing environment for work and HRM.

Future research

This paper has enriched our understanding of remote working and its HRM in the digital economy by integrating interdisciplinary fields of literature. Such interdisciplinarity should be applied in future empirical studies on remote working and HRM in the digital economy, as this is likely to widen the impact of any conceptual and theoretical developments derived from such research.

The interdisciplinary combination of literature in this paper suggests that future empirical research should investigate whether geographical distances between workers and employers are becoming more or less relationally proximate. This is because this is likely to affect individuals' perceptions and experiences of an organisation's HRM function and its representatives, and the perceptions of remote workers by those managing them as human resources.

We have put forward generalised propositions as provocations for debate and future research, which are likely to shed further light on the recontextualisation of remote work and its HRM. The identification of cases or circumstances that diverge from these propositions would be interesting in of themselves to researchers and HRM practitioners in elucidating the dynamic spectrum of implications for this growing group of workers and their HRM.

Conclusions

Tackling emergent questions around the recontextualisation of work is important, as there are increasing opportunities for the (de)humanisation of digital work to extend beyond an international organisation's domestic setting. As this paper posits, remote digital working may be on a low road negation trajectory from a GVC and labour process perspective. To counter this, it will be necessary to affirm HRM standards in contexts where HRM is currently under developed and for HRM practitioners to have more nuanced understandings of the geographies of their employment relations and the working conditions of those who are relationally distant.

References

Abraham, M., Niessen, C., Schnabel, C., Lorek, K., Grimm, V., Möslin, K and Wrede, M. 2019. Electronic monitoring at work: The role of attitudes, functions, and perceived control for the acceptance of tracking technologies. *Human Resource Management Journal*. Early View.

Aguinis, H., and Lawal, S. O. 2013. eLancing: A review and research agenda for bridging the science-practice gap. *Human Resource Management Review*, 23(1): 6-17.

Alberti, G., Bessa, I., Hardy, K., Trappmann, V., and Umney, C. 2018. In, Against and Beyond Precarity: Work in Insecure Times. *Work, Employment and Society*, 32(3): 447-457.

Ash, J., Kitchin, R. and Leszczynski, A. 2018. Digital turn, digital geographies? *Progress in Human Geography* 42 (1), 25-43.

Bair, J. 2008. Global commodity chains: genealogy and review. In Bair, J. (ed.) *Frontiers of Commodity Chains Research*. Ithaca, NY: Cornell University Press, 1–34.

Barrientos, S. 2013. ‘Labour chains’: analysing the role of labour contractors in global production networks. *The Journal of Development Studies*, 49, 1058–1071.

Barley, S., and Kunda, G. 2004. *Gurus, Hired Guns, and Warm Bodies*. Princeton: Princeton University Press.

Barney, J., and Felin, T. 2013. What are microfoundations? *Academy of Management Perspectives*, 27(2), 138–155.

Bidwell, M., and Briscoe, J. 2009. Who contracts? Determinants of the decision to work as an independent contractor among information technology workers. *Academy of Management Journal*, 52(6): 1148–1168.

Blyton, P., Heery, E., and Turnbull, P. 2010. *Reassessing the Employment Relationship*. Basingstoke: Palgrave.

Bondarouk, T., and Brewster, C. 2016. Conceptualising the future of HRM and technology research. *The International Journal of Human Resource Management*, 27(21): 2652-2671.

Boudreau, J. 2017. Uber is finally realizing HR isn't just for recruiting. Harvard Business Review, 08/03/17. <https://hbr.org/2017/03/uber-is-finally-realizing-hr-isnt-just-for-recruiting> Accessed 19/01/18.

Boxall, P., and Purcell, J. 2016. *Strategy and Human Resource Management*. London: Palgrave.

Braverman, H. 1974. *Labor and Monopoly Capital*. New York: Free Press.

Budd, J.W. and Bhavor, D. 2019. The employment relationship: Key elements, alternative frames of reference, and implications for HRM. In A. Wilkinson et al (Eds) *Sage Handbook of Human Resource Management*. London: Sage (pp.41-64).

Cappelli, P. (Ed.) 2008. *Employment Relationships*. Cambridge: Cambridge University Press.

Coe, N. M., Hess, M. 2013 Global production networks, labour and development. *Geoforum*, 44, 4–9.

Coe, N. M., Dicken, P., Hess, M. 2008 Global production networks: debates and challenges, Special Issue of *Journal of Economic Geography*, 8, 267–440.

Coe, N. M., Jordhus-Lier, D. C. 2011. Constrained agency? Re-evaluating the geographies of labour. *Progress in Human Geography*, 35, 211–233.

Colbert, A., Yee, N., and George, G. 2016. The Digital Workforce and the Workplace of the Future. *Academy of Management Journal*, 59(3): 731-739.

Cooper, C. and Lu, L. 2019. Excessive availability for work: Good or bad? Charting underlying motivations and searching for game changers. *Human Resource Management Review*, 29(4):

Crane, A., Le Baron, G., Allain, J. and Behbahani, L. 2019. Governance gaps in eradicating forced labour: from global to domestic supply chains. *Regulation and Governance* 13 (1), 86-106.

Delanoeije, J., Verbruggen, M., and Germeys, L. 2019. Boundary role transitions: A day-to-day approach to explain the effects of home-based telework on work-to-home conflict and home-to-work conflict. *Human Relations*. Early View.

Denyer, D., and Tranfield, D. 2009. Producing a systematic review. In D. Buchanan and A. Bryman (Eds.) *The Sage handbook of organisational research methods*. London: Sage.

Eurofound and ILO. 2017. *Working anytime, anywhere: The effects of the world of work*. Luxembourg/Geneva: Publications of the Office of the European Union and the International Labour Office.

Felfe, J., Schmook, R., Schyns, B., and Six, B. 2008. Does the form of employment make a difference? Commitment of traditional, temporary and self-employed workers. *Journal of Vocational Behavior*, 72: 81–94.

Felstead, A., and Henseke, G. 2017. Assessing the growth of remote working and its consequences for effort, well-being and work-life balance. *New Technology, Work and Employment*, 32(3): 195-212.

- Felstead, A., Gallie, D., and Green, F. (Eds.). (2015). *Unequal Britain at Work*. Oxford: Oxford University Press.
- Ferner, A., Edwards, T. and Tempel, A. 2011. Power, Institutions and the Cross-national Transfer of Employment Practices in Multinationals. *Human Relations*, 65(2): 163–187.
- Ferriss, T. 2011. *The 4-Hour Work Week: Escape the 9-5, Live Anywhere and Join the New Rich*. London: Vermillion.
- Flecker, J. (Ed). 2016. *Space, place and global digital work*. Basingstoke: Palgrave.
- Flecker, J., and Schönauer, A. 2016. The production of placelessness: Digital service work in global value chains. In J. Flecker (Ed) *Space, place and global digital work*. Basingstoke: Palgrave (p11-30).
- Fried, J., and Hannson, D. H. 2013. *Remote: Office not required*. London: Vermillion.
- Gandini, A. 2019. Labour process theory and the gig economy. *Human Relations* 72 (6)
- Gerlter, M. S. 2003. Tacit knowledge and the economic geography of context, or The undefinable tacitness of being (there). *Journal of Economic Geography* 3(1), 75-99.

Gereffi, G. 1994. The Organization of Buyer-driven Global Commodity Chains: How US Retailers Shape Overseas Production Networks. In Gereffi, G. and Korzeniewicz, M. (Eds). *Commodity Chains and Global Capitalism*. Westport, CT: Praeger, pp. 95–122.

Gereffi, G., Humphrey, J. and Sturgeon, T. 2005. The Governance of Global Value Chains. *Review of International Political Economy*, 12(1): 78–104.

Gilson, L. L., Maynard, M. T., Young, N. C. J., Vartiainen, M., and Hakonen, M. 2015. Virtual teams research 10 years, 10 themes, and 10 opportunities. *Journal of Management*, 41, 1313–1337.

Graham, M. 2013. Geography/internet: ethereal alternate dimensions of cyberspace or grounded augmented realities? *The Geographical Journal*, 179(2): 177-182.

Graham, M., Hogan, B., Straumann, K. and Medhat, A. 2014. Uneven geographies of user-generated information: Patterns of increasing information poverty. *Annals of the Association of American Geographers*, 104(4): 746-64.

Graham, M., Hjorth, I. and Lehdonvirta, V. 2017a. Digital labour and development: impacts of global digital labour platforms and the gig economy on worker livelihoods. *Futures*, 23(2): 135-62.

Graham, M., Lehdonvirta, V., Wood, A., Barnard, H., Hjorth, I., Simon, D. P. 2017b. *The Risks and Rewards of Online Gig Work At The Global Margins*. Oxford: Oxford Internet Institute.

Hall, D. 2003. *Careers in and out of organizations*. Thousand Oaks, CA: Sage.

Hammer, N. and Riisgaard, L. 2015. Labour and segmentation in value chains. In Newsome, L., Taylor, P., Bair, J. and Rainnie, A. (eds) *Putting Labour in its Place: Labour process analysis and global value chains*. London: Palgrave Macmillan.

Heery, E. 2016. *Framing work: unitary, pluralist and critical perspectives in the twenty-first century*. Oxford: OUP.

Henderson, J., Dicken, P., Hess, M., Coe, N. M., Yeung, H. W. C. 2002 Global production networks and the analysis of economic development. *Review of International Political Economy*, 9: 436–464.

Hislop, D. 2013. *Knowledge management in organizations: A critical introduction*. Oxford: OUP

Hollister, M. 2011. Employment Stability in the U.S. Labor Market: Rhetoric versus Reality. *Annual Review of Sociology* 37, 305-324.

Hudson, R. 2001. *Producing Places*. New York: Guilford Press.

Irani, L. 2013. The cultural work of microwork. *New Media and Society*, 17(5): 720-739.

Jones, A. 2008. The rise of global work. *Transactions of the Institute of British Geographers* 33, 12-26.

Kalleberg, A. L. 2001. Organizing flexibility: The flexible firm in a new century. *British Journal of Industrial Relations*, 39(4), 479-504.

Kaše, R., Paauwe, J., and Zupan, N. 2009. HR practices, interpersonal relations and intrafirm knowledge transfer in knowledge-intensive firms: A social network perspective. *Human Resource Management*, 48(4), 615–639.

Katz, H., Kochan, T., Colvin, A. 2015. *Labor relations in a globalizing world*. Cornell: Cornell University Press.

Kinsley, S. 2014. The matter of ‘virtual’ geographies. *Progress in Human Geography* 38, 364–384.

Kitchin, R. 2013. Big data and human geography: Opportunities, challenges and risks. *Dialogues in Human Geography* 3, 262–267.

Koslowski, N. 2016. My company is invisible: Generating trust in the context of placelessness, precarity and invisibility. In J. Flecker (Ed) *Space, place and global digital work*. Basingstoke: Palgrave (p171-200).

Le Baron, G. 2018 *The Global Business of Forced Labour: Report of Findings*.

SPERI and University of Sheffield.

Lehdonvirta V. 2016. Algorithms that Divide and Unite: Delocalisation, Identity and Collective Action in 'Microwork'. In Flecker J. (Ed) *Space, Place and Global Digital Work. Dynamics of Virtual Work*. London: Palgrave Macmillan, 53-80.

Leszczynski, A. 2014. Spatial media/tion. *Progress in Human Geography*. 39(6), 729-751.

Lohaus, D., and Habermann, W. 2019. Presenteeism: A review and research directions. *Human Resource Management Review*, 29(1), 43-58.

Ludvine, M. 2017. Do innovative work practices and the use of information communication technologies motivate employees? *Industrial Relations: A Journal of Economy and Society*, 56(2), 263-292.

Mabey, C. and Zhao, S. 2017. Managing five paradoxes of knowledge exchange in networked organisations: new priorities for HRM? *Human Resource Management Journal* 27 (1), 39-57.

Manuti, A. and de Palma, P. D. 2017. *Digital HR: A critical management approach to the digitization of organizations*. Palgrave.

Massey, D. 2005. *For space*. London: Sage.

Mustafa, M. and Gold, M. 2013. 'Chained to my work'? Strategies to manage temporal and physical boundaries among self-employed teleworkers. *Human Resource Management Journal*, 23(4), 413-429.

Neufeind, M., O'Reilly, J. and Ranft, F. (Eds.) 2018. *Work in the digital age: Challenges of the fourth industrial revolution*. London: Rowman and Littlefield Ltd.

Newsome, K., Taylor, P., Bair, J., and Rainnie, A. 2015. *Putting labour in its place: Labour process analysis and global value chains*. Basingstoke: Palgrave.

Öhman, J. 2010. Towards a digital (societal) infrastructure? *Urban Studies* 47 (1), 183-195.

Olivo, J., Guzmàn, J., Colomo-Palacios, R., and Stantchev, V. 2016. IT innovation strategy: managing the implementation communication and its generated knowledge through the use of an ICT tool. *Journal of Knowledge Management*, 20(3), 512-533.

Osterman, P. 1988. *Employment Futures: Reorganisation, Dislocation, and Public Policy*. New York: Oxford University Press.

Parry, E. and Tyson, S. 2011. Desired goals and actual outcomes of e-HRM. *Human Resource Management Journal*, 21(3), 335-354.

Peters, P., Ligthart, P. E. M., Bardoel, A., and Poutsma, E. 2016. 'Fit' for telework'? Cross-cultural variance and task-control explanations in organizations' formal telework practices. *The International Journal of Human Resource Management*, 27 (21), 2582-2603.

Phillips, N. 2011 Informality, global production networks and the dynamics of 'adverse incorporation'. *Global Networks*, 11, 380–397.

Pink, D. 2001. *Free Agent Nation*. NY: Warner Business.

Pinnington, A., Macklin, R. and Campbell, T. (2007). *Human Resource Management: Ethics and Employment*. Oxford: OUP.

Pruijt, H. D. 1997. *Job Design and Technology: Taylorism vs Anti-Taylorism*. London: Routledge.

Rainnie, A., Herod, A., McGrath-Champ, S. 2011 Review and positions: global production networks and labour. *Competition and Change*, 15, 155–169.

Ramirez, P. and Rainbird, H. 2010 Making the connections: bringing skill formation into global value chain analysis. *Work, Employment and Society* 24, 699-710.

Richardson, L. 2018. Feminist geographies of digital work. *Progress in Human Geography*. 42, 244-263.

Ritzer, G. 2011. *The McDonaldization of Society*. London: Sage.

Rousseau, D. M. (Ed.) (2012). *The Oxford handbook of evidence-based management*. New York, NY: Oxford University Press.

Shestakofsky, B. 2017. Working algorithms: Software automation and the future of work. *Work and Occupations*, 44(4), 376-423.

Standing, G. 2014. *A Precariat Charter: From Denizens to Citizens*. London: Bloomsbury.

Stone, D. and Deadrick, D. L. 2015. Challenges and opportunities affecting the future of human resource management. *Human Resource Management Review*, 25, 139-145.

Storrie, D. 2003. Contingent employment in Europe and the flexibility-security trade-off. In O. Bergstrom and D. Storrie (Eds.) *Contingent Employment in Europe and the United States* (pp. 224–248). Cheltenham: Edward Elgar Publishing.

Strauss, K. 2018. Labour geography 1: Towards a geography of precarity? *Progress in Human Geography*. 42 (4), 622-630.

Taskin, L. and Bridoux, F. 2010. Telework: a challenge to knowledge transfer in organizations. *The International Journal of Human Resource Management*, 21(13),

2503-2520.

Taskin, L. and Van Bunnem, G. 2015. Knowledge management through the development of repositories: towards work degradation. *New Technology, Work and Employment*, 30(2), 158-172.

Taylor, P. 2010 The Globalisation of Service Work: Analysing the Transnational Call Centre Value Chain. In Thompson, P. and Smith, C. (eds) *Working Life: Renewing Labour Process Analysis*. Basingstoke: Palgrave Macmillan, 244-268.

Taylor, P., Newsome, K. and Rainnie, A. 2013. 'Putting labour in its place': Global value chains and labour process analysis. *Competition and Change* 17 (1), 1-5.

Thompson, P. and Smith, C. (Eds.) 2010. *Working life: Renewing labour process analysis*. Basingstoke: Palgrave.

Tomlinson, J., Baird, M., Berg, P., and Cooper, R. 2017. Flexible careers across the lifecourse: Advancing theory, research and practice. *Human Relations*, 71(1), 4-22.

Torraco, R. J. 2005. Writing integrative literature reviews: Guidelines and examples. *Human Resource Development Review*, 4, 1-12.

Van Gramberg, B., Teicher, J., and O'Rourke, A. 2014. Managing electronic communications: A new challenge for Human Resource Managers. *The International Journal of Human Resource Management*, 25(16), 2234-2252.

Wilks, L. and Billsberry, J. 2007. Should We Do Away With Teleworking? An Examination of Whether Teleworking Can be Defined in the New World of Work. *New Technology, Work and Employment*, 22(2), 168–177.

FIGURE 1: Traditional and recontextualised remote working

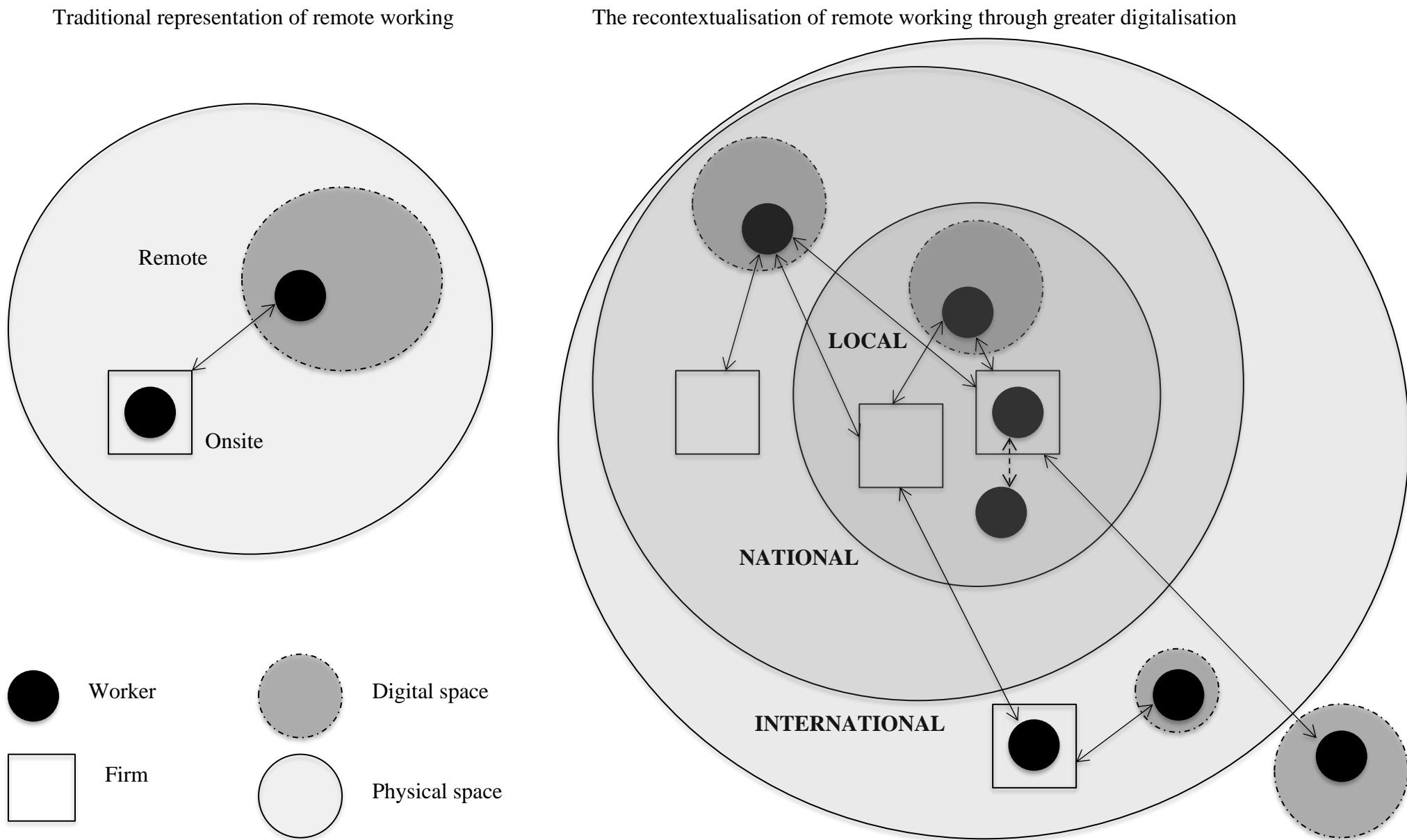


Table 1: Journal search term results (2010-19)

| | Digital* | Remote* | Telework* | Home* |
|---|--|------------------|-----------------|-------------------|
| | <i>n of articles relevant to the focus of this paper in brackets</i> | | | |
| <i>The International Journal of Human Resource Management</i> | 95 (4) | 113 (6) | 40 (10) | 956 (27) |
| <i>Human Resource Management</i> | 261 (12) | 40 (4) | 15 (2) | 248 (6) |
| <i>Human Resource Management Journal</i> | 27 (3) | 13 (2) | 6 (1) | 128 (6) |
| <i>Human Resource Management Review</i> | 23 (3) | 16 (5) | 8 (3) | 117 (5) |
| <i>New Technology, Work & Employment</i> | 98 (19) | 60 (21) | 43 (22) | 125 (5) |
| <i>Work, Employment & Society</i> | 103 (3) | 45 (3) | 7 (1) | 338 (28) |
| <i>Work and Occupations</i> | 43 (3) | 18 (3) | 1 (1) | 98 (14) |
| <i>Human Relations</i> | 213 (15) | 73 (7) | 18 (6) | 402 (29) |
| <i>Journal of Vocational Behavior</i> | 37 (2) | 11 (2) | 9 (3) | 312 (6) |
| <i>Academy of Management Journal</i> | 73 (5) | 74 (1) | 1 (1) | 321 (5) |
| <i>Technological Forecasting and Social Change</i> | 698 (22) | 264 (0) | 14 (1) | 635 (11) |
| <i>Cognition, Technology & Work</i> | 97 (3) | 76 (2) | 0 (0) | 70 (1) |
| <i>British Journal of Industrial Relations</i> | 15 (2) | 33 (2) | 4 (0) | 258 (4) |
| <i>Industrial Relations: A Journal of Economy and Society</i> | 8 (0) | 23 (2) | 1 (1) | 129 (3) |
| <i>Industrial Relations Journal</i> | 20 (2) | 28 (3) | 4 (0) | 141 (5) |
| <i>European Journal of Industrial Relations</i> | 12 (2) | 13 (1) | 5 (0) | 118 (4) |
| <i>Industrial and Labor Relations Review</i> | 23 (4) | 26 (2) | 4 (2) | 195 (3) |
| <i>Socio-Economic Review</i> | 65 (2) | 21 (1) | 0 (0) | 171 (2) |
| <i>Global Networks</i> | 27 (3) | 10 (0) | 0 (0) | 96 (1) |
| <i>New Political Economy</i> | 39 (2) | 26 (0) | 2 (1) | 195 (1) |
| <i>Journal of Political Economy</i> | 94 (2) | 24 (1) | 0 (0) | 202 (0) |
| <i>Progress in Human Geography</i> | 61 (6) | 81 (0) | 2 (1) | 327 (3) |
| <i>Journal of Economic Geography</i> | 160 (8) | 68 (3) | 2 (1) | 277 (1) |
| <i>Economic Geography</i> | 72 (3) | 29 (1) | 0 (0) | 134 (2) |
| <i>Urban Studies</i> | 210 (4) | 192 (3) | 6 (2) | 1248 (6) |
| <i>Environment and Planning A</i> | 212 (7) | 192 (6) | 7 (2) | 978 (4) |
| Total | 12773 (465) | 1569 (81) | 199 (61) | 8219 (182) |

